

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph starting at page 2, line 15 of the clean version of the substitute specification filed as part of the Preliminary Amendment, with the following amended paragraph:

A second compensating technique is diagrammatically shown in Fig. 1b. This circuit diagram refers to an active filter made up of three stages, each of them obtained with a suitably feedbacked operational amplifier; in particular, the opamp of the input stage is feedbacked through a parallel of a capacitor and a resistor whereas the opamp of the intermediate stage is disposed in a typical inverting configuration; the operational amplifier of the third stage is feedbacked through a capacitor so as to form a conventional inverting integrator stage. The additional connection, made for compensation purposes is denoted by letter "X"; this connection generally aims at eliminating the parasitic effects due to one of the active elements therein preset and, more particularly, at limiting the dependence of the filter behaviour on the thermal drifts of its components; in fact, as known, each electronic component varies its behaviour depending on the temperature at which it is. In this way, the quality factor "Q" of the third stage is enhanced making said stage more precise in the neighbourhood of its operating frequency, which leads the filter to have a degree of selectivity "Q" that is closer to the wished ~~deeree~~ degree during the design or planning step.

Please replace the paragraph starting at page 4, line 13 of the clean version of the substitute specification filed as part of the Preliminary Amendment, with the following amended paragraph:

A third known solution is shown in Fig. 1c in which a conventional biquadratic three-stage filter has been modified in such a manner that the first opamp A1 output ~~A1~~ is brought to the noninverting input of the second opamp ~~A1~~ A2, by means of resistor R, and the output of the third opamp A3 is brought to the noninverting input of the second opamp, by means of capacitor C; the inverting input of the second opamp on the contrary is grounded.

Please replace the paragraph starting at page 4, line 22 of the clean version of the substitute specification filed as part of the Preliminary Amendment, with the

following amended paragraph:

This circuit solution, unlike the two solutions previously shown, allows the effects of the parasitic poles of three stages composing a typical resonant active filter to be compensated for. However, in this case too, the obtainable results are of poor quality because in any case they do not enable operation with very high "Q" values, above all for relatively high frequencies. In addition, as a consequence of each known compensation technique, the opamp the circuit structure of which is modified for compensation purposes, in the last-mentioned case the second opamp A2 ~~A1~~, is frequency-destabilized; this means that for frequencies much higher than the work frequency "fo" of the filter, said filter can become unstable and output a signal of an amplitude comparable with that of the useful signal, which is clearly unacceptable.

Please replace the paragraph starting at page 10, line 1 of the clean version of the substitute specification filed as part of the Preliminary Amendment, with the following amended paragraph:

Each of the two connecting branches is defined by a respective fourth or fifth stage 40, 40a that is preferably defined by a general voltage amplifier, having an input ("in") defining the first end of the respective connecting branch, and an output ("out") connected with the first end of a resistor; the second end of said resistor defines the second end of such a branch.

Please replace the paragraph starting at page 16, line 1 of the clean version of the substitute specification filed as part of the Preliminary Amendment, with the following amended paragraph:

With reference to Figs. 3-6, if resistors 600 and 601 are not used, in relation to the input signal Vs the output 11c of the first opamp 11 is an output of the band-pass type which is -180° out of phase, the output 21c of the second opamp 21 is an output of the band-pass type not out of phase, and the output 31c of the third opamp 31 is a 90° out of phase low-pass output; if resistors 600 and 601 are used, the output 11c of the first opamp 11 is a -180° out of phase band-pass output, the output 21c of the second opamp 21 is a notch output, in which the frequencies other than the one to be eliminated are 180° out of phase, and the output 31c of the third opamp 31 is a 90° out of phase low-pass output.

Please replace the paragraph starting at page 31, line 22 of the clean version of the substitute specification filed as part of the Preliminary Amendment, with the following amended paragraph:

The feedback means 23 of the second stage 20 preferably consists of a first branch comprising either a single capacitor or a capacitor series-connected to a resistor; this branch can be parallel-connected to a second branch defined by a resistor and a capacitor in series with each other; the feedback means 33 of the third stage 30 ~~20~~ consists of a single capacitor or a capacitor in series with a resistor.

Please replace the paragraph starting at page 36, line 6 of the clean version of the substitute specification filed as part of the Preliminary Amendment, with the following amended paragraph:

The third opamp 31 is feedbacked through second resistor 33 ~~32~~.

Please replace the paragraph starting at page 49, line 13 of the clean version of the substitute specification filed as part of the Preliminary Amendment, with the following amended paragraph:

In the circuit ~~circuits~~ in Fig. 29, the fourth stage 40 is included in the first connecting branch 15; the first connecting block 13 is preferably defined by a resistor 92. The second connecting block 23 can consist of two branches connected in parallel; the first branch being defined either by a single capacitor or a capacitor in series with a resistor and the second branch being defined by a single resistor or a resistor in series with a capacitor; the third connecting block 33 is defined by a single capacitor or a capacitor in series with a resistor.

Please replace the paragraph starting at page 57, line 9 of the clean version of the substitute specification filed as part of the Preliminary Amendment, with the following amended paragraph:

Fig. 32 shows a further configuration of filter 1, in which both the third opamp 31 and the second opamp 21 are connected to the first opamp 11, respectively each of ~~them~~ by means of a respective fourth and a fifth ~~respective~~ amplifying stage 40, 40a. A fourth stage 40 in fact has an input "in" connected to the inverting input 31a of the third

opamp 31, and an output "out" connected to the noninverting input 11b of the first opamp 11, through a respective resistor.

Please replace the paragraph starting at page 57, line 17 of the clean version of the substitute specification, with the following amended paragraph:

Also provided between the first and second operational amplifiers 11, 21 is a ~~further~~ ~~fourth~~ fifth stage ~~40~~ 40a having an input "in" connected to the inverting input 21a of the second opamp 21 and an output "out" connected to the noninverting input 11b of the first opamp, through a respective resistor.

Moreover, Applicant has noted that, when the application was published as US Patent Publication No. 2006/0197587, on September 7, 2006, through an oversight the expression *<frequency "fo">* at page 5, line 9 of the clean version of the substitute specification, has been misspelled as *<frequency "of">* in paragraph [11], line 12 of the application as published.

Therefore Applicant respectfully requests that, when the application is printed as a patent, such expression be corrected, so that it will recite *<frequency "fo">*.

Furthermore, Applicant has noted that, when the application was published as US Patent Publication No. 2006/0197587, on September 7, 2006, through an oversight the word *"IS"* has been inserted in paragraph [188], at the end of the second line. Such word was not present in the clean version of the substitute specification: please see page 61, lines 14-15 of the clean version of the substitute specification. Therefore Applicant respectfully requests that, when the application is printed as a patent, such word be deleted, so that it will not be included in the issued patent.